

APPENDIX H

AIR QUALITY CALCULATIONS

**Draft Environmental Impact Statement
Allocation of Water Supply and
Long-Term Contract Execution
Central Arizona Project**

H.1. Air Emissions Estimation Methodology

This air quality technical appendix describes the methodology used to estimate air emissions associated with the Allocation of Water Supply and Long-Term Contract Execution for the draft Environmental Impact Statement CAP NEPA Process. After an initial analysis of the elements of the proposed action and alternatives, it was determined that the focus of the quantitative assessment of air quality impacts would be those related to changes in agricultural production.

A socioeconomic analysis was prepared as part of the overall NEPA analysis (Appendix D). This study provided detailed information regarding the changes in agricultural production that are expected under each of the alternatives. The socioeconomic analysis provides data for each alternative for the years 2001, 2004, 2016, 2030, 2043, and 2051. Thus, the years analyzed for air quality are the same.

The first task was to organize the agricultural data by county, year, and crop type. The various entities were sorted by county because each affected county has a different status of attainment for the criteria pollutants in question. Crop types are important because there are different emissions rates associated with each type.

Non-Indian Agriculture (NIA) and Indian entities were sorted by county to match Federal attainment status boundaries as follows:

- ◆ Maricopa County: Queen Creek Irrigation District and Tonapah Irrigation District.
- ◆ Pinal County: Gila River Indian Community, Tohono O'odham Nation - Chuichu District, Maricopa-Stanfield Irrigation & Drainage District, Central Arizona Irrigation and Drainage District, and New Magma Irrigation and Drainage District.
- ◆ Pima County: Tohono O'odham Nation - Schuk Toak District and Tohono O'odham Nation - San Xavier District.
- ◆ Gila County: San Carlos Apache Tribe.

For each water user and for each of the six analysis years included in the socioeconomic analysis, agricultural acreage was estimated for each of five crop types: cotton, grains, vegetables, forage, trees/vines. The air quality analysis basically consists of calculating total emissions for each county for each analysis year and comparing it to the No Action Alternative.

Emissions associated with agricultural activities consist of two primary components: fugitive dust and exhaust emissions. Each of these components is discussed separately below.

H.2 PM₁₀ Fugitive Dust

Fugitive dust would be generated by two distinct activities: site preparation and harvesting.

H.2.a. Site Preparation

The estimated acreage for each crop type was used to estimate fugitive PM₁₀ dust emissions based on the following methodology. The number of acres for each crop type was multiplied by the number of acre-passes per crop type. The acre-passes per crop type, shown in Table H-1, are for site preparation and planting only and do not include dust emissions associated with harvesting.

	Cotton	Grains	Forage	Vegetables	Trees/Vines
Acre-Passes	6.0	1.0	1.25	5.0	0.06
Source: California Air Resources Board 1994					

To estimate the total number of acre-passes for a crop, the total acreage for that crop type was multiplied by its respective acre-pass value shown in Table H-1. For example, for each acre of cotton, six acre-passes are made to prepare the soil and plant the crop. Multiplying the total cotton acreage by six gives the total number of cotton acre-passes. Once the total number of acre-passes was estimated for each crop type, the total acre-passes for all crops was summed and multiplied by the fugitive dust emission factor (pounds of PM₁₀ per acre-pass).

The PM₁₀ emission factor was calculated using the following equation:

$$\text{Pounds PM}_{10}/\text{acre-pass} = [k(4.8)(s)]^{0.6}$$

Where k is dependent on the particle size of interest and s is the percent soil silt content. For PM₁₀, the value of k used was 0.149. This value is based on the EPA's estimate that 33 percent of the total particulate entrained in the air during agricultural operations is 30 microns in diameter or less. Of this, analysis of soil samples indicates that 45 percent of the 30 micron or less sized particles are 10 microns or less in aerodynamic size (i.e., PM₁₀). Therefore, the PM₁₀ particle size multiplier is 0.149 (0.33 x 0.45 = 0.149). For the percent silt value, the EPA default value of 18 percent was used. Inserting these values into the above equation results in a PM₁₀ emission factor of 4.6 pounds PM₁₀ per acre-pass.

H.2.b. Harvesting

Fugitive PM₁₀ dust emissions generated by harvesting operations were estimated by multiplying the harvesting emission rate (pounds of PM₁₀ per acre harvested) for each crop type by the total acreage to be harvested. Table H-2 shows the PM₁₀ emission rates used for the five crop types included in this analysis.

Table H-2 CAP Allocation Draft EIS Harvesting Emissions (pounds PM ₁₀ per acre harvested)				
Cotton	Grains	Forage	Vegetables	Trees/Vines
1.12	1.12	1.12	1.12	34.2
Source: California Air Resources Board 1997.				

H.3 Exhaust Emissions

Exhaust emissions associated with agricultural operations were based on exhaust emission rates for agricultural equipment. The emission rates shown in Table H-3 are based on diesel-powered tractors.

Table H-3 CAP Allocation Draft EIS Exhaust Emissions (grams/hour)				
	ROG	NO _x	CO	PM ₁₀
Diesel Tractor	77.8	452.0	161.0	61.8
Source: U.S. Environmental Protection Agency. 1985.				

The grams per hour emission rates shown in Table H-3 were multiplied by the total number of hours required for site preparation and harvesting. The total number of hours were estimated by multiplying the total number of acre-passes used in site preparation and harvesting by one half hour per acre-pass.

H.4 Air Quality Computations

Tables H-4 through H-8 (following the text of this appendix) show the acreage assumptions and calculations that were made for each of the alternatives.

H.5 References

California Air Resources Board. 1997. October. Emission Inventory Manual Volume III, Methods for Assessing Area Source Emissions. Sacramento, California.

United States Environmental Protection Agency. 1985. Compilation of air pollutant emission factors, volume II: mobile sources. 4th edition. Research Triangle Park, NC.

**Table H-4. Air Quality Calculations
Year 2004**

No-Action Alternative

Entity	Crop Acreages					Total
	Cotton	Grains	Forage	Vegetables	Trees/Vines	
Maricopa County						
Queen Creek ID	5,258	3,847	3,154	2,632	368	15,259
Tonopah ID	2,463	22	546	0	0	3,031
County Totals	7,721	3,869	3,700	2,632	368	18,290
Pinal County						
GRIC	0	0	0	0	0	0
TON Chuichu District	0	0	0	0	0	0
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	22,823	2,957	3,116	2,281	59,723
New Magma IDD	9,042	5,107	5,449	1,808	1,855	23,261
County Totals	65,450	46,084	17,117	8,030	8,022	144,703
Pima County						
TON (Schuk Toak District)	1,248	372	0	0	0	1,620
TON (San Xavier District)	0	0	800	0	0	800
County Totals	1,248	372	800	0	0	2,420

Settlement Alternative

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total
Maricopa County						
Queen Creek ID	5,258	3,847	0	2,632	368	12,105
Tonopah ID	2,463	22	546	0	0	3,031
County Totals	7,721	3,869	546	2,632	368	15,136
Pinal County						
GRIC	0	0	0	0	0	0
TON Chuichu District	0	0	0	0	0	0
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	22,823	2,957	3,116	2,281	59,723
New Magma IDD	9,042	5,107	5,449	1,808	1,855	23,261
County Totals	65,450	46,084	17,117	8,030	8,022	144,703
Pima County						
TON (Schuk Toak District)	1,248	372	0	0	0	1,620
TON (San Xavier District)	0	0	800	0	0	800
County Totals	1,248	372	800	0	0	2,420

Alternative 1

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total
Maricopa County						
Queen Creek ID	5,258	3,847	3,154	2,632	368	15,259
Tonopah ID	2,463	22	546	0	0	3,031
County Totals	7,721	3,869	3,700	2,632	368	18,290
Pinal County						
GRIC	0	0	0	0	0	0
TON Chuichu District	0	0	0	0	0	0
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	22,823	2,957	3,116	2,281	59,723
New Magma IDD	9,042	5,107	5,449	1,808	1,855	23,261
County Totals	65,450	46,084	17,117	8,030	8,022	144,703
Pima County						
TON (Schuk Toak District)	1,248	372	0	0	0	1,620
TON (San Xavier District)	0	0	800	0	0	800
County Totals	1,248	372	800	0	0	2,420

Table H-4. Air Quality Calculations (Continued)
Year 2004

Alternative 2

Entity	Crop Acreages					Total
	Cotton	Grains	Forage	Vegetables	Trees/Vines	
Maricopa County						
Queen Creek ID	5,258	3,847	3,154	2,632	368	15,259
Tonopah ID	2,463	22	546	0	0	3,031
County Totals	7,721	3,869	3,700	2,632	368	18,290
Pinal County						
GRIC	0	0	0	0	0	0
TON Chuichu District	0	0	0	0	0	0
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	22,823	2,957	3,116	2,281	59,723
New Magma IDD	9,042	5,107	5,449	1,808	1,855	23,261
County Totals	65,450	46,084	17,117	8,030	8,022	144,703
Pima County						
TON (Schuk Toak District)	1,248	372	0	0	0	1,620
TON (San Xavier District)	0	0	800	0	0	800
County Totals	1,248	372	800	0	0	2,420
Gila County						
San Carlos Apache	4,700	0	0	0	0	0

Alternative 3a

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total
Maricopa County						
Queen Creek ID	5,258	3,847	3,154	2,632	368	15,259
Tonopah ID	2,463	22	546	0	0	3,031
County Totals	7,721	3,869	3,700	2,632	368	18,290
Pinal County						
GRIC	0	0	0	0	0	0
TON Chuichu District	0	0	0	0	0	0
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	22,823	2,957	3,116	2,281	59,723
New Magma IDD	9,042	5,107	5,449	1,808	1,855	23,261
County Totals	65,450	46,084	17,117	8,030	8,022	144,703
Pima County						
TON (Schuk Toak District)	1,248	372	0	0	0	1,620
TON (San Xavier District)	0	0	800	0	0	800
County Totals	1,248	372	800	0	0	2,420
Gila County						
San Carlos Apache	8,000	0	0	0	0	0

Alternative 3b

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total
Maricopa County						
Queen Creek ID	5,258	3,847	3,154	2,632	368	15,259
Tonopah ID	2,463	22	546	0	0	3,031
County Totals	7,721	3,869	3,700	2,632	368	18,290
Pinal County						
GRIC	0	0	0	0	0	0
TON Chuichu District	0	0	0	0	0	0
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	22,823	2,957	3,116	2,281	59,723
New Magma IDD	9,042	5,107	5,449	1,808	1,855	23,261
County Totals	65,450	46,084	17,117	8,030	8,022	144,703
Pima County						
TON (Schuk Toak District)	1,248	372	0	0	0	1,620
TON (San Xavier District)	0	0	800	0	0	800
County Totals	1,248	372	800	0	0	2,420
Gila County						
San Carlos Apache	8,000	0	0	0	0	0

**Table H-4. Air Quality Calculations (Continued)
Year 2004**

Emission Factors

(grams/acre-hour)

ROG	NOx	CO	PM10-exhaust
38.90	226.00	80.50	30.90

No-Action Alternative

Site Preparation/Harvest Exhaust Emissions

Entity	Acre-Passes			
	tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County				
Queen Creek ID	52,520	2	13	5
Tonopah ID	15,483	1	4	1
County Totals	68,002	3	17	6
Pinal County				
GRIC	0	0	0	0
TON Chuichu District	0	0	0	0
Maricopa-Stanfield IDD	211,978	9	53	19
Central Arizona IDD	213,512	9	53	19
New Magma IDD	75,322	3	19	7
County Totals	500,812	21	125	44
Pima County				
TON (Schuk Toak District)	7,860	0	2	1
TON (San Xavier District)	1,000	0	0	0
County Totals	8,860	0	2	1

Settlement Alternative

Entity	tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County				
Queen Creek ID	48,577	2	12	4
Tonopah ID	15,483	1	4	1
County Totals	64,060	3	16	6
Pinal County				
GRIC	0	0	0	0
TON Chuichu District	0	0	0	0
Maricopa-Stanfield IDD	211,978	9	53	19
Central Arizona IDD	213,512	9	53	19
New Magma IDD	75,322	3	19	7
County Totals	500,812	21	125	44
Pima County				
TON (Schuk Toak District)	7,860	0	2	1
TON (San Xavier District)	1,000	0	0	0
County Totals	8,860	0	2	1

Alternative 1

Entity	tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County				
Queen Creek ID	52,520	2	13	5
Tonopah ID	15,483	1	4	1
County Totals	68,002	3	17	6
Pinal County				
GRIC	0	0	0	0
TON Chuichu District	0	0	0	0
Maricopa-Stanfield IDD	211,978	9	53	19
Central Arizona IDD	213,512	9	53	19
New Magma IDD	75,322	3	19	7
County Totals	500,812	21	125	44
Pima County				
TON (Schuk Toak District)	7,860	0	2	1
TON (San Xavier District)	1,000	0	0	0
County Totals	8,860	0	2	1

**Table H-4. Air Quality Calculations (Continued)
Year 2004**

**Emission Factors
(grams/acre-hour)**

ROG	NOx	CO	PM10-exhaust
38.90	226.00	80.50	30.90

Alternative 2

**Site Preparation/Harvest Exhaust Emissions
Acre-Passes**

Entity		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	52,520	2	13	5	2
Tonopah ID	15,483	1	4	1	1
County Totals	68,002	3	17	6	2
Pinal County					
GRIC	0	0	0	0	0
TON Chuichu District	0	0	0	0	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	213,512	9	53	19	7
New Magma IDD	75,322	3	19	7	3
County Totals	500,812	21	125	44	17
Pima County					
TON (Schuk Toak District)	7,860	0	2	1	0
TON (San Xavier District)	1,000	0	0	0	0
County Totals	8,860	0	2	1	0
Gila County					
San Carlos Apache	28,200	1	7	3	1

Alternative 3a

Entity		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	52,520	2	13	5	2
Tonopah ID	15,483	1	4	1	1
County Totals	68,002	3	17	6	2
Pinal County					
GRIC	0	0	0	0	0
TON Chuichu District	0	0	0	0	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	213,512	9	53	19	7
New Magma IDD	75,322	3	19	7	3
County Totals	500,812	21	125	44	17
Pima County					
TON (Schuk Toak District)	7,860	0	2	1	0
TON (San Xavier District)	1,000	0	0	0	0
County Totals	8,860	0	2	1	0
Gila County					
San Carlos Apache	48,000	2	12	4	2

Alternative 3b

Entity		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	52,520	2	13	5	2
Tonopah ID	15,483	1	4	1	1
County Totals	68,002	3	17	6	2
Pinal County					
GRIC	0	0	0	0	0
TON Chuichu District	0	0	0	0	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	213,512	9	53	19	7
New Magma IDD	75,322	3	19	7	3
County Totals	500,812	21	125	44	17
Pima County					
TON (Schuk Toak District)	7,860	0	2	1	0
TON (San Xavier District)	1,000	0	0	0	0
County Totals	8,860	0	2	1	0
Gila County					
San Carlos Apache	48,000	2	12	4	2

**Table H-4. Air Quality Calculations (Continued)
Year 2004**

PM10 per acre - pass 4.64	Acre - passes				
	Cotton	Grains	Forage	Vegetables	Trees/Vines
	6.00	1.00	1.25	5.00	0.06

No-Action Alternative

Site Preparation: Fugitive Dust

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	18,293	61,062	102	243,691	122
Tonopah ID	68,570	102	3,167	0	0	71,839	36
County Totals	214,953	17,952	21,460	61,062	102	315,530	158
Pinal County							
GRIC	0	0	0	0	0	0	0
TON Chuichu District	0	0	0	0	0	0	0
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	105,899	17,151	72,291	635	990,696	495
New Magma IDD	251,729	23,696	31,604	41,946	516	349,492	175
County Totals	1,822,128	213,830	99,279	186,296	2,233	2,323,766	1,162
Pima County							
TON (Schuk Toak District)	34,744	1,726	0	0	0	36,470	18
TON (San Xavier District)	0	0	4,640	0	0	4,640	2
County Totals	34,744	1,726	4,640	0	0	41,110	21

Settlement Alternative

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	0	61,062	102	225,398	113
Tonopah ID	68,570	102	3,167	0	0	71,839	36
County Totals	214,953	17,952	3,167	61,062	102	297,236	149
Pinal County							
GRIC	0	0	0	0	0	0	0
TON Chuichu District	0	0	0	0	0	0	0
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	105,899	17,151	72,291	635	990,696	495
New Magma IDD	251,729	23,696	31,604	41,946	516	349,492	175
County Totals	1,822,128	213,830	99,279	186,296	2,233	2,323,766	1,162
Pima County							
TON (Schuk Toak District)	34,744	1,726	0	0	0	36,470	18
TON (San Xavier District)	0	0	4,640	0	0	4,640	2
County Totals	34,744	1,726	4,640	0	0	41,110	21

Alternative 1

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	18,293	61,062	102	243,691	122
Tonopah ID	68,570	102	3,167	0	0	71,839	36
County Totals	214,953	17,952	21,460	61,062	102	315,530	158
Pinal County							
GRIC	0	0	0	0	0	0	0
TON Chuichu District	0	0	0	0	0	0	0
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	105,899	17,151	72,291	635	990,696	495
New Magma IDD	251,729	23,696	31,604	41,946	516	349,492	175
County Totals	1,822,128	213,830	99,279	186,296	2,233	2,323,766	1,162
Pima County							
TON (Schuk Toak District)	34,744	1,726	0	0	0	36,470	18
TON (San Xavier District)	0	0	4,640	0	0	4,640	2
County Totals	34,744	1,726	4,640	0	0	41,110	21

**Table H-4. Air Quality Calculations (Continued)
Year 2004**

PM10 per acre - pass 4.64	Acre - passes				
	Cotton	Grains	Forage	Vegetables	Trees/Vines
	6.00	1.00	1.25	5.00	0.06

Alternative 2

Site Preparation: Fugitive Dust

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	18,293	61,062	102	243,691	122
Tonopah ID	68,570	102	3,167	0	0	71,839	36
County Totals	214,953	17,952	21,460	61,062	102	315,530	158
Pinal County							
GRIC	0	0	0	0	0	0	0
TON Chuichu District	0	0	0	0	0	0	0
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	105,899	17,151	72,291	635	990,696	495
New Magma IDD	251,729	23,696	31,604	41,946	516	349,492	175
County Totals	1,822,128	213,830	99,279	186,296	2,233	2,323,766	1,162
Pima County							
TON (Schuk Toak District)	34,744	1,726	0	0	0	36,470	18
TON (San Xavier District)	0	0	4,640	0	0	4,640	2
County Totals	34,744	1,726	4,640	0	0	41,110	21
Gila County							
San Carlos Apache	130,848	0	0	0	0	130,848	65

Alternative 3a

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	18,293	61,062	102	243,691	122
Tonopah ID	68,570	102	3,167	0	0	71,839	36
County Totals	214,953	17,952	21,460	61,062	102	315,530	158
Pinal County							
GRIC	0	0	0	0	0	0	0
TON Chuichu District	0	0	0	0	0	0	0
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	105,899	17,151	72,291	635	990,696	495
New Magma IDD	251,729	23,696	31,604	41,946	516	349,492	175
County Totals	1,822,128	213,830	99,279	186,296	2,233	2,323,766	1,162
Pima County							
TON (Schuk Toak District)	34,744	1,726	0	0	0	36,470	18
TON (San Xavier District)	0	0	4,640	0	0	4,640	2
County Totals	34,744	1,726	4,640	0	0	41,110	21
Gila County							
San Carlos Apache	222,720	0	0	0	0	222,720	111

Alternative 3b

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	18,293	61,062	102	243,691	122
Tonopah ID	68,570	102	3,167	0	0	71,839	36
County Totals	214,953	17,952	21,460	61,062	102	315,530	158
Pinal County							
GRIC	0	0	0	0	0	0	0
TON Chuichu District	0	0	0	0	0	0	0
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	105,899	17,151	72,291	635	990,696	495
New Magma IDD	251,729	23,696	31,604	41,946	516	349,492	175
County Totals	1,822,128	213,830	99,279	186,296	2,233	2,323,766	1,162
Pima County							
TON (Schuk Toak District)	34,744	1,726	0	0	0	36,470	18
TON (San Xavier District)	0	0	4,640	0	0	4,640	2
County Totals	34,744	1,726	4,640	0	0	41,110	21
Gila County							
San Carlos Apache	222,720	0	0	0	0	222,720	111

**Table H-4. Air Quality Calculations (Continued)
Year 2004**

Harvesting (pounds per acre)				
Cotton	Grains	Forage	Vegetables	Trees/Vines
1.12	1.12	1.12	1.12	34.20

Total Emissions

No-Action Alternative

Harvest: Fugitive Dust

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	Harvest	Site Prep+Harvest
							Tons/year	Tons/year
Maricopa County								
Queen Creek ID	5,889	4,309	3,532	2,948	12,586	29,264	15	136
Tonopah ID	2,759	25	612	0	0	3,395	2	38
County Totals	8,648	4,333	4,144	2,948	12,586	32,658	16	174
Pinal County								
GRIC	0	0	0	0	0	0	0	0
TON Chuichu District	0	0	0	0	0	0	0	0
Maricopa-Stanfield IDD	31,205	20,332	9,756	3,479	132,901	197,674	99	591
Central Arizona IDD	31,972	25,562	3,312	3,490	78,010	142,345	71	567
New Magma IDD	10,127	5,720	6,103	2,025	63,441	87,416	44	218
County Totals	73,304	51,614	19,171	8,994	274,352	427,435	214	1,376
Pima County								
TON (Schuk Toak District)	1,398	417	0	0	0	1,814	1	19
TON (San Xavier District)	0	0	896	0	0	896	0	3
County Totals	1,398	417	896	0	0	2,710	1	22

Settlement Alternative

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	Tons/year	Tons/year
Maricopa County								
Queen Creek ID	5,889	4,309	0	2,948	12,586	25,731	13	126
Tonopah ID	2,759	25	612	0	0	3,395	2	38
County Totals	8,648	4,333	612	2,948	12,586	29,126	15	163
Pinal County								
GRIC	0	0	0	0	0	0	0	0
TON Chuichu District	0	0	0	0	0	0	0	0
Maricopa-Stanfield IDD	31,205	20,332	9,756	3,479	132,901	197,674	99	591
Central Arizona IDD	31,972	25,562	3,312	3,490	78,010	142,345	71	567
New Magma IDD	10,127	5,720	6,103	2,025	63,441	87,416	44	218
County Totals	73,304	51,614	19,171	8,994	274,352	427,435	214	1,376
Pima County								
TON (Schuk Toak District)	1,398	417	0	0	0	1,814	1	19
TON (San Xavier District)	0	0	896	0	0	896	0	3
County Totals	1,398	417	896	0	0	2,710	1	22

Alternative 1

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	Harvest	Site Prep+Harvest
							Tons/year	Tons/year
Maricopa County								
Queen Creek ID	5,889	4,309	3,532	2,948	12,586	29,264	15	136
Tonopah ID	2,759	25	612	0	0	3,395	2	38
County Totals	8,648	4,333	4,144	2,948	12,586	32,658	16	174
Pinal County								
GRIC	0	0	0	0	0	0	0	0
TON Chuichu District	0	0	0	0	0	0	0	0
Maricopa-Stanfield IDD	31,205	20,332	9,756	3,479	132,901	197,674	99	591
Central Arizona IDD	31,972	25,562	3,312	3,490	78,010	142,345	71	567
New Magma IDD	10,127	5,720	6,103	2,025	63,441	87,416	44	218
County Totals	73,304	51,614	19,171	8,994	274,352	427,435	214	1,376
Pima County								
TON (Schuk Toak District)	1,398	417	0	0	0	1,814	1	19
TON (San Xavier District)	0	0	896	0	0	896	0	3
County Totals	1,398	417	896	0	0	2,710	1	22

**Table H-4. Air Quality Calculations (Continued)
Year 2004**

Harvesting (pounds per acre)

Cotton	Grains	Forage	Vegetables	Trees/Vines
1.12	1.12	1.12	1.12	34.20

Total Emissions

Alternative 2

Harvest: Fugitive Dust

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	Tons/year	Tons/year
Maricopa County								
Queen Creek ID	5,889	4,309	3,532	2,948	12,586	29,264	15	136
Tonopah ID	2,759	25	612	0	0	3,395	2	38
County Totals	8,648	4,333	4,144	2,948	12,586	32,658	16	174
Pinal County								
GRIC	0	0	0	0	0	0	0	0
TON Chuichu District	0	0	0	0	0	0	0	0
Maricopa-Stanfield IDD	31,205	20,332	9,756	3,479	132,901	197,674	99	591
Central Arizona IDD	31,972	25,562	3,312	3,490	78,010	142,345	71	567
New Magma IDD	10,127	5,720	6,103	2,025	63,441	87,416	44	218
County Totals	73,304	51,614	19,171	8,994	274,352	427,435	214	1,376
Pima County								
TON (Schuk Toak District)	1,398	417	0	0	0	1,814	1	19
TON (San Xavier District)	0	0	896	0	0	896	0	3
County Totals	1,398	417	896	0	0	2,710	1	22
Gila County								
San Carlos Apache	5,264	0	0	0	0	5,264	3	68

Alternative 3a

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	Tons/year	Tons/year
Maricopa County								
Queen Creek ID	5,889	4,309	3,532	2,948	12,586	29,264	15	136
Tonopah ID	2,759	25	612	0	0	3,395	2	38
County Totals	8,648	4,333	4,144	2,948	12,586	32,658	16	174
Pinal County								
GRIC	0	0	0	0	0	0	0	0
TON Chuichu District	0	0	0	0	0	0	0	0
Maricopa-Stanfield IDD	31,205	20,332	9,756	3,479	132,901	197,674	99	591
Central Arizona IDD	31,972	25,562	3,312	3,490	78,010	142,345	71	567
New Magma IDD	10,127	5,720	6,103	2,025	63,441	87,416	44	218
County Totals	73,304	51,614	19,171	8,994	274,352	427,435	214	1,376
Pima County								
TON (Schuk Toak District)	1,398	417	0	0	0	1,814	1	19
TON (San Xavier District)	0	0	896	0	0	896	0	3
County Totals	1,398	417	896	0	0	2,710	1	22
Gila County								
San Carlos Apache	8,960	0	0	0	0	8,960	4	116

Alternative 3b

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	Tons/year	Tons/year
Maricopa County								
Queen Creek ID	5,889	4,309	3,532	2,948	12,586	29,264	15	136
Tonopah ID	2,759	25	612	0	0	3,395	2	38
County Totals	8,648	4,333	4,144	2,948	12,586	32,658	16	174
Pinal County								
GRIC	0	0	0	0	0	0	0	0
TON Chuichu District	0	0	0	0	0	0	0	0
Maricopa-Stanfield IDD	31,205	20,332	9,756	3,479	132,901	197,674	99	591
Central Arizona IDD	31,972	25,562	3,312	3,490	78,010	142,345	71	567
New Magma IDD	10,127	5,720	6,103	2,025	63,441	87,416	44	218
County Totals	73,304	51,614	19,171	8,994	274,352	427,435	214	1,376
Pima County								
TON (Schuk Toak District)	1,398	417	0	0	0	1,814	1	19
TON (San Xavier District)	0	0	896	0	0	896	0	3
County Totals	1,398	417	896	0	0	2,710	1	22
Gila County								
San Carlos Apache	8,960	0	0	0	0	8,960	4	116

**Table H-5. Air Quality Calculations
Year 2017**

No-Action Alternative

Entity	Crop Acreages					Total
	Cotton	Grains	Forage	Vegetables	Trees/Vines	
Maricopa County						
Queen Creek ID	5,258	3,847	0	2,632	368	12,105
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	3,869	0	2,632	368	14,590
Pinal County						
GRIC	29,148	14,032	5,675	2,734	0	51,589
TON Chuichu District	0	0	0	0	0	0
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	22,823	2,957	3,116	2,281	59,723
New Magma IDD	9,042	0	5,449	1,808	1,855	18,154
County Totals	94,598	55,009	22,792	10,764	8,022	191,185
Pima County						
TON (Schuk Toak District)	1,248	372	394	98	88	2,200
TON (San Xavier District)	0	0	2,508	2,700	0	5,208
County Totals	1,248	372	2,902	2,798	88	7,408

Settlement Alternative

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total
Maricopa County						
Queen Creek ID	5,258	3,847	0	2,632	368	12,105
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	3,869	0	2,632	368	14,590
Pinal County						
GRIC	29,148	14,032	5,675	2,734	0	51,589
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	22,823	2,957	3,116	2,281	59,723
New Magma IDD	9,042	0	5,449	1,808	1,855	18,154
County Totals	95,798	55,809	22,792	10,764	8,022	193,185
Pima County						
TON (Schuk Toak District)	1,248	372	394	88	88	2,190
TON (San Xavier District)	0	0	800	192	0	992
County Totals	1,248	372	1,194	280	88	3,182

Alternative 1

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total
Maricopa County						
Queen Creek ID	5,258	3,847	0	2,632	368	12,105
Tonopah ID	2,463	22	546	0	0	3,031
County Totals	7,721	3,869	546	2,632	368	15,136
Pinal County						
GRIC	29,148	14,032	5,675	2,734	0	51,589
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	22,823	2,957	3,116	2,281	59,723
New Magma IDD	9,042	0	5,449	1,808	1,855	18,154
County Totals	95,798	55,809	22,792	10,764	8,022	193,185
Pima County						
TON (Schuk Toak District)	1,248	372	394	98	88	2,200
TON (San Xavier District)	0	2,508	2,700	192	0	5,400
County Totals	1,248	2,880	3,094	290	88	7,600

**Table H-5. Air Quality Calculations [Continued]
Year 2017**

Alternative 2

Crop Acreages

Entity	Crop Acreages					Total
	Cotton	Grains	Forage	Vegetables	Trees/Vines	
Maricopa County						
Queen Creek ID	5,258	3,847	0	2,632	368	12,105
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	3,869	0	2,632	368	14,590
Pinal County						
GRIC	29,148	14,032	5,675	2,734	0	51,589
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	22,823	2,957	3,116	2,281	59,723
New Magma IDD	9,042	0	5,449	1,808	1,855	18,154
County Totals	95,798	55,809	22,792	10,764	8,022	193,185
Pima County						
TON (Schuk Toak District)	1,248	372	394	98	88	2,200
TON (San Xavier District)	0	2,508	2,700	192	0	5,400
County Totals	1,248	2,880	3,094	290	88	7,600
Gila County						
San Carlos Apache	0	0	0	0	0	0

Alternative 3a

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total
Maricopa County						
Queen Creek ID	5,258	3,847	0	2,632	368	12,105
Tonopah ID	2,463	22	546	0	0	3,031
County Totals	7,721	3,869	546	2,632	368	15,136
Pinal County						
GRIC	29,148	14,032	5,675	2,734	0	51,589
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	22,823	2,957	3,116	2,281	59,723
New Magma IDD	9,042	0	5,449	1,808	1,855	18,154
County Totals	95,798	55,809	22,792	10,764	8,022	193,185
Pima County						
TON (Schuk Toak District)	1,248	372	394	98	88	2,200
TON (San Xavier District)	0	2,508	2,700	192	0	5,400
County Totals	1,248	2,880	3,094	290	88	7,600
Gila County						
San Carlos Apache	0	0	0	0	0	0

Alternative 3b

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total
Maricopa County						
Queen Creek ID	5,258	3,847	0	2,632	368	12,105
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	3,869	0	2,632	368	14,590
Pinal County						
GRIC	29,148	14,032	5,675	2,734	0	51,589
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	22,823	2,957	3,116	2,281	59,723
New Magma IDD	9,042	0	5,449	1,808	1,855	18,154
County Totals	95,798	55,809	22,792	10,764	8,022	193,185
Pima County						
TON (Schuk Toak District)	1,248	372	394	98	88	2,200
TON (San Xavier District)	0	2,508	2,700	192	0	5,400
County Totals	1,248	2,880	3,094	290	88	7,600
Gila County						
San Carlos Apache	0	0	0	0	0	0

**Table H-5. Air Quality Calculations (Continued)
Year 2017**

Emission Factors (grams/acre-hour)					
No-Action Alternative					
	ROG	NOx	CO	PM10-exhaust	
	38.90	226.00	80.50	30.90	

Site Preparation/Harvest Exhaust Emissions					
Entity	Acre-Passes	grams/acre-hr	grams/acre-hr	grams/acre-hr	grams/acre-hr
		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	48,577	2	12	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	63,377	3	16	6	2
Pinal County					
GRIC	209,684	9	52	19	7
TON Chuichu District	0	0	0	0	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	213,512	9	53	19	7
New Magma IDD	70,215	3	17	6	2
County Totals	705,388	30	176	63	24
Pima County					
TON (Schuk Toak District)	8,848	0	2	1	0
TON (San Xavier District)	16,635	1	4	1	1
County Totals	25,483	1	6	2	1

Settlement Alternative

Entity		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	48,577	2	12	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	63,377	3	16	6	2
Pinal County					
GRIC	209,684	9	52	19	7
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	213,512	9	53	19	7
New Magma IDD	70,215	3	17	6	2
County Totals	713,388	31	178	63	24
Pima County					
TON (Schuk Toak District)	8,798	0	2	1	0
TON (San Xavier District)	1,960	0	0	0	0
County Totals	10,758	0	3	1	0

Alternative 1

Entity		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	48,577	2	12	4	2
Tonopah ID	15,483	1	4	1	1
County Totals	64,060	3	16	6	2
Pinal County					
GRIC	209,684	9	52	19	7
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	213,512	9	53	19	7
New Magma IDD	70,215	3	17	6	2
County Totals	713,388	31	178	63	24
Pima County					
TON (Schuk Toak District)	8,848	0	2	1	0
TON (San Xavier District)	6,843	0	2	1	0
County Totals	15,691	1	4	1	1

**Table H-5. Air Quality Calculations [Continued]
Year 2017**

Emission Factors (grams/acre-hour)			
ROG	NOx	CO	PM10-exhaust
38.90	226.00	80.50	30.90

Alternative 2

Entity	Site Preparation/Harvest Exhaust Emissions				
	Acre-Passes	grams/acre-hr	grams/acre-hr	grams/acre-hr	grams/acre-hr
		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	48,577	2	12	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	63,377	3	16	6	2
Pinal County					
GRIC	209,684	9	52	19	7
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	213,512	9	53	19	7
New Magma IDD	70,215	3	17	6	2
County Totals	713,388	31	178	63	24
Pima County					
TON (Schuk Toak District)	8,848	0	2	1	0
TON (San Xavier District)	6,843	0	2	1	0
County Totals	15,691	1	4	1	1
Gila County					
San Carlos Apache	0	0	0	0	0

Alternative 3a

Entity		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	48,577	2	12	4	2
Tonopah ID	15,483	1	4	1	1
County Totals	64,060	3	16	6	2
Pinal County					
GRIC	209,684	9	52	19	7
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	213,512	9	53	19	7
New Magma IDD	70,215	3	17	6	2
County Totals	713,388	31	178	63	24
Pima County					
TON (Schuk Toak District)	8,848	0	2	1	0
TON (San Xavier District)	6,843	0	2	1	0
County Totals	15,691	1	4	1	1
Gila County					
San Carlos Apache	0	0	0	0	0

Alternative 3b

Entity		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	48,577	2	12	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	63,377	3	16	6	2
Pinal County					
GRIC	209,684	9	52	19	7
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	213,512	9	53	19	7
New Magma IDD	70,215	3	17	6	2
County Totals	713,388	31	178	63	24
Pima County					
TON (Schuk Toak District)	8,848	0	2	1	0
TON (San Xavier District)	6,843	0	2	1	0
County Totals	15,691	1	4	1	1
Gila County					
San Carlos Apache	0	0	0	0	0

**Table H-5. Air Quality Calculations (Continued)
Year 2017**

No-Action Alternative	PM10 per	Acre - passes				
	acre - pass	Cotton	Grains	Forage	Vegetables	Trees/Vines
	4.64	6.00	1.00	1.25	5.00	0.06

Site Preparation: Fugitive Dust

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	0	61,062	102	225,398	113
Tonopah ID	68,570	102	0	0	0	68,672	34
County Totals	214,953	17,952	0	61,062	102	294,070	147
Pinal County							
GRIC	811,480	65,108	32,915	63,429	0	972,933	486
TON Chuichu District	0	0	0	0	0	0	0
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	105,899	17,151	72,291	635	990,696	495
New Magma IDD	251,729	0	31,604	41,946	516	325,796	163
County Totals	2,633,608	255,242	132,194	249,725	2,233	3,273,002	1,637
Pima County							
TON (Schuk Toak District)	34,744	1,726	2,285	2,274	24	41,054	21
TON (San Xavier District)	0	0	14,546	62,640	0	77,186	39
County Totals	34,744	1,726	16,832	64,914	24	118,240	59

Settlement Alternative

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	0	61,062	102	225,398	113
Tonopah ID	68,570	102	0	0	0	68,672	34
County Totals	214,953	17,952	0	61,062	102	294,070	147
Pinal County							
GRIC	811,480	65,108	32,915	63,429	0	972,933	486
TON Chuichu District	33,408	3,712	0	0	0	37,120	19
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	105,899	17,151	72,291	635	990,696	495
New Magma IDD	251,729	0	31,604	41,946	516	325,796	163
County Totals	2,667,016	258,954	132,194	249,725	2,233	3,310,122	1,655
Pima County							
TON (Schuk Toak District)	34,744	1,726	2,285	2,042	24	40,822	20
TON (San Xavier District)	0	0	4,640	4,454	0	9,094	5
County Totals	34,744	1,726	6,925	6,496	24	49,916	25

Alternative 1

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	0	61,062	102	225,398	113
Tonopah ID	68,570	102	3,167	0	0	71,839	36
County Totals	214,953	17,952	3,167	61,062	102	297,236	149
Pinal County							
GRIC	811,480	65,108	32,915	63,429	0	972,933	486
TON Chuichu District	33,408	3,712	0	0	0	37,120	19
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	105,899	17,151	72,291	635	990,696	495
New Magma IDD	251,729	0	31,604	41,946	516	325,796	163
County Totals	2,667,016	258,954	132,194	249,725	2,233	3,310,122	1,655
Pima County							
TON (Schuk Toak District)	34,744	1,726	2,285	2,274	24	41,054	21
TON (San Xavier District)	0	11,637	15,660	4,454	0	31,752	16
County Totals	34,744	13,363	17,945	6,728	24	72,805	36

**Table H-5. Air Quality Calculations (Continued)
Year 2017**

PM10 per acre - pass 4.64	Acre - passes				
	Cotton	Grains	Forage	Vegetables	Trees/Vines
	6.00	1.00	1.25	5.00	0.06

Alternative 2

Site Preparation: Fugitive Dust

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	0	61,062	102	225,398	113
Tonopah ID	68,570	102	0	0	0	68,672	34
County Totals	214,953	17,952	0	61,062	102	294,070	147
Pinal County							
GRIC	811,480	65,108	32,915	63,429	0	972,933	486
TON Chuichu District	33,408	3,712	0	0	0	37,120	19
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	105,899	17,151	72,291	635	990,696	495
New Magma IDD	251,729	0	31,604	41,946	516	325,796	163
County Totals	2,667,016	258,954	132,194	249,725	2,233	3,310,122	1,655
Pima County							
TON (Schuk Toak District)	34,744	1,726	2,285	2,274	24	41,054	21
TON (San Xavier District)	0	11,637	15,660	4,454	0	31,752	16
County Totals	34,744	13,363	17,945	6,728	24	72,805	36
Gila County							
San Carlos Apache	0	0	0	0	0	0	0

Alternative 3a

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	0	61,062	102	225,398	113
Tonopah ID	68,570	102	3,167	0	0	71,839	36
County Totals	214,953	17,952	3,167	61,062	102	297,236	149
Pinal County							
GRIC	811,480	65,108	32,915	63,429	0	972,933	486
TON Chuichu District	33,408	3,712	0	0	0	37,120	19
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	105,899	17,151	72,291	635	990,696	495
New Magma IDD	251,729	0	31,604	41,946	516	325,796	163
County Totals	2,667,016	258,954	132,194	249,725	2,233	3,310,122	1,655
Pima County							
TON (Schuk Toak District)	34,744	1,726	2,285	2,274	24	41,054	21
TON (San Xavier District)	0	11,637	15,660	4,454	0	31,752	16
County Totals	34,744	13,363	17,945	6,728	24	72,805	36
Gila County							
San Carlos Apache	0	0	0	0	0	0	0

Alternative 3b

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	0	61,062	102	225,398	113
Tonopah ID	68,570	102	0	0	0	68,672	34
County Totals	214,953	17,952	0	61,062	102	294,070	147
Pinal County							
GRIC	811,480	65,108	32,915	63,429	0	972,933	486
TON Chuichu District	33,408	3,712	0	0	0	37,120	19
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	105,899	17,151	72,291	635	990,696	495
New Magma IDD	251,729	0	31,604	41,946	516	325,796	163
County Totals	2,667,016	258,954	132,194	249,725	2,233	3,310,122	1,655
Pima County							
TON (Schuk Toak District)	34,744	1,726	2,285	2,274	24	41,054	21
TON (San Xavier District)	0	11,637	15,660	4,454	0	31,752	16
County Totals	34,744	13,363	17,945	6,728	24	72,805	36
Gila County							
San Carlos Apache	0	0	0	0	0	0	0

**Table H-5. Air Quality Calculations (Continued)
Year 2017**

	Harvesting (pounds per acre)					Total Emissions
	Cotton	Grains	Forage	Vegetables	Trees/Vines	
No-Action Alternative	1.12	1.12	1.12	1.12	34.20	

Entity	Harvest: Fugitive Dust					Harvest		Site Prep+Harvest
	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	Tons/year	Tons/year
Maricopa County								
Queen Creek ID	5,889	4,309	0	2,948	12,586	25,731	13	126
Tonopah ID	2,759	25	0	0	0	2,783	1	36
County Totals	8,648	4,333	0	2,948	12,586	28,514	14	161
Pinal County								
GRIC	32,646	15,716	6,356	3,062	0	57,780	29	515
TON Chuichu District	0	0	0	0	0	0	0	0
Maricopa-Stanfield IDD	31,205	20,332	9,756	3,479	132,901	197,674	99	591
Central Arizona IDD	31,972	25,562	3,312	3,490	78,010	142,345	71	567
New Magma IDD	10,127	0	6,103	2,025	63,441	81,696	41	204
County Totals	105,950	61,610	25,527	12,056	274,352	479,495	240	1,876
Pima County								
TON (Schuk Toak District)	1,398	417	441	110	3,010	5,375	3	23
TON (San Xavier District)	0	0	2,809	3,024	0	5,833	3	42
County Totals	1,398	417	3,250	3,134	3,010	11,208	6	65

Settlement Alternative

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	Tons/year	Tons/year
Maricopa County								
Queen Creek ID	5,889	4,309	0	2,948	12,586	25,731	13	126
Tonopah ID	2,759	25	0	0	0	2,783	1	36
County Totals	8,648	4,333	0	2,948	12,586	28,514	14	161
Pinal County								
GRIC	32,646	15,716	6,356	3,062	0	57,780	29	515
TON Chuichu District	1,344	896	0	0	0	2,240	1	20
Maricopa-Stanfield IDD	31,205	20,332	9,756	3,479	132,901	197,674	99	591
Central Arizona IDD	31,972	25,562	3,312	3,490	78,010	142,345	71	567
New Magma IDD	10,127	0	6,103	2,025	63,441	81,696	41	204
County Totals	107,294	62,506	25,527	12,056	274,352	481,735	241	1,896
Pima County								
TON (Schuk Toak District)	1,398	417	441	99	3,010	5,364	3	23
TON (San Xavier District)	0	0	896	215	0	1,111	1	5
County Totals	1,398	417	1,337	314	3,010	6,475	3	28

Alternative 1

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	Tons/year	Tons/year
Maricopa County								
Queen Creek ID	5,889	4,309	0	2,948	12,586	25,731	13	126
Tonopah ID	2,759	25	612	0	0	3,395	2	38
County Totals	8,648	4,333	612	2,948	12,586	29,126	15	163
Pinal County								
GRIC	32,646	15,716	6,356	3,062	0	57,780	29	515
TON Chuichu District	1,344	896	0	0	0	2,240	1	20
Maricopa-Stanfield IDD	31,205	20,332	9,756	3,479	132,901	197,674	99	591
Central Arizona IDD	31,972	25,562	3,312	3,490	78,010	142,345	71	567
New Magma IDD	10,127	0	6,103	2,025	63,441	81,696	41	204
County Totals	107,294	62,506	25,527	12,056	274,352	481,735	241	1,896
Pima County								
TON (Schuk Toak District)	1,398	417	441	110	3,010	5,375	3	23
TON (San Xavier District)	0	2,809	3,024	215	0	6,048	3	19
County Totals	1,398	3,226	3,465	325	3,010	11,423	6	42

**Table H-6. Air Quality Calculations
Year 2030**

No-Action Alternative

Entity	Crop Acreages					Total
	Acreage Cotton	Acreage Grains	Acreage Forage	Acreage Vegetables	Acreage Trees/Vines	
Maricopa County						
Queen Creek ID	5,258	3,847	0	2,632	368	12,105
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	3,869	0	2,632	368	14,590
Pinal County						
GRIC	48,291	23,248	9,402	4,530	0	85,471
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	22,823	2,957	3,116	2,281	59,723
New Magma IDD	9,042	0	5,449	1,808	1,855	18,154
County Totals	114,941	65,025	26,519	12,560	8,022	227,067
Pima County						
TON (Schuk Toak District)	1,248	372	394	98	88	2,200
TON (San Xavier District)	0	2,508	2,700	192	0	5,400
County Totals	1,248	2,880	3,094	290	88	7,600

Settlement Alternative

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total
Maricopa County						
Queen Creek ID	5,258	3,847	0	2,632	368	12,105
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	3,869	0	2,632	368	14,590
Pinal County						
GRIC	66,583	32,044	12,959	6,244	0	117,830
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	22,823	2,957	3,116	2,281	59,723
New Magma IDD	9,042	0	0	1,808	1,855	12,705
County Totals	133,233	73,821	24,627	14,274	8,022	253,977
Pima County						
TON (Schuk Toak District)	1,824	544	734	98	88	3,288
TON (San Xavier District)	0	3,900	4,250	250	0	8,400
County Totals	1,824	4,444	4,984	348	88	11,688

Alternative 1

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total
Maricopa County						
Queen Creek ID	5,258	3,847	0	2,632	368	12,105
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	3,869	0	2,632	368	14,590
Pinal County						
GRIC	53,076	25,133	10,333	4,979	0	93,521
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	22,823	2,957	3,116	2,281	59,723
New Magma IDD	9,042	0	0	1,808	1,855	12,705
County Totals	119,726	66,910	22,001	13,009	8,022	229,668
Pima County						
TON (Schuk Toak District)	1,248	372	394	98	88	2,200
TON (San Xavier District)	0	2,508	2,700	192	0	5,400
County Totals	1,248	2,880	3,094	290	88	7,600

**Table H-6. Air Quality Calculations [Continued]
Year 2030**

Alternative 2

Entity	Acreage	Acreage	Acreage	Acreage	Acreage	Total
	Cotton	Grains	Forage	Vegetables	Trees/Vines	
Maricopa County						
Queen Creek ID	5,258	3,847	0	2,632	368	12,105
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	3,869	0	2,632	368	14,590
Pinal County						
GRIC	57,862	27,856	11,285	5,428	0	102,431
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	22,823	2,957	3,116	2,281	59,723
New Magma IDD	9,042	0	0	1,808	1,855	12,705
County Totals	124,512	69,633	22,953	13,458	8,022	238,578
Pima County						
TON (Schuk Toak District)	1,824	544	734	98	88	3,288
TON (San Xavier District)	0	3,900	4,250	250	0	8,400
County Totals	1,824	4,444	4,984	348	88	11,688
Gila County						
San Carlos Apache	0	0	0	0	0	0

Alternative 3a

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total
	Maricopa County					
Queen Creek ID	5,258	3,847	0	2,632	368	12,105
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	3,869	0	2,632	368	14,590
Pinal County						
GRIC	77,439	37,280	15,077	7,264	0	137,060
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	22,823	2,957	3,116	2,281	59,723
New Magma IDD	9,042	0	0	1,808	1,855	12,705
County Totals	144,089	79,057	26,745	15,294	8,022	273,207
Pima County						
TON (Schuk Toak District)	1,824	544	734	98	88	3,288
TON (San Xavier District)	0	3,900	4,250	250	0	8,400
County Totals	1,824	4,444	4,984	348	88	11,688
Gila County						
San Carlos Apache	0	0	0	0	0	0

Alternative 3b

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total
	Maricopa County					
Queen Creek ID	5,258	3,847	0	2,632	368	12,105
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	3,869	0	2,632	368	14,590
Pinal County						
GRIC	77,439	37,280	15,077	7,264	0	137,060
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	22,823	2,957	3,116	2,281	59,723
New Magma IDD	9,042	0	0	1,808	1,855	12,705
County Totals	144,089	79,057	26,745	15,294	8,022	273,207
Pima County						
TON (Schuk Toak District)	1,824	544	734	98	88	3,288
TON (San Xavier District)	0	3,900	4,250	250	0	8,400
County Totals	1,824	4,444	4,984	348	88	11,688
Gila County						
San Carlos Apache	0	0	0	0	0	0

**Table H-6. Air Quality Calculations (Continued)
Year 2030**

	Emission Factors (grams/ acre-hr)			
	ROG	NOx	CO	PM10-exhaust
No-Action Alternative	38.90	226.00	80.50	30.90

Site Preparation/Harvest Exhaust Emissions					
Entity	Acre-Passes	grams/acre-hr			
		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	48,577	2	12	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	63,377	3	16	6	2
Pinal County					
GRIC	347,397	15	86	31	12
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	213,512	9	53	19	7
New Magma IDD	70,215	3	17	6	2
County Totals	851,101	36	212	75	29
Pima County					
TON (Schuk Toak District)	8,848	0	2	1	0
TON (San Xavier District)	6,843	0	2	1	0
County Totals	15,691	1	4	1	1

Settlement Alternative

Entity	Acre-Passes	grams/acre-hr			
		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	48,577	2	12	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	63,377	3	16	6	2
Pinal County					
GRIC	478,961	21	119	42	16
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	213,512	9	53	19	7
New Magma IDD	63,403	3	16	6	2
County Totals	975,854	42	243	87	33
Pima County					
TON (Schuk Toak District)	12,901	1	3	1	0
TON (San Xavier District)	10,463	0	3	1	0
County Totals	23,363	1	6	2	1

Alternative 1

Entity	Acre-Passes	grams/acre-hr			
		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	48,577	2	12	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	63,377	3	16	6	2
Pinal County					
GRIC	381,400	16	95	34	13
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	213,512	9	53	19	7
New Magma IDD	63,403	3	16	6	2
County Totals	878,294	38	219	78	30
Pima County					
TON (Schuk Toak District)	8,848	0	2	1	0
TON (San Xavier District)	6,843	0	2	1	0
County Totals	15,691	1	4	1	1

**Table H-6. Air Quality Calculations [Continued]
Year 2030**

Emission Factors

Emission Factors (grams/ acre-hr)			
ROG	NOx	CO	PM10-exhaust
38.90	226.00	80.50	30.90

Alternative 2

Site Preparation/Harvest Exhaust Emissions

Entity	Acre-Passes	grams/acre-hr	grams/acre-hr	grams/acre-hr	grams/acre-hr
		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	48,577	2	12	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	63,377	3	16	6	2
Pinal County					
GRIC	416,274	18	104	37	14
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	213,512	9	53	19	7
New Magma IDD	63,403	3	16	6	2
County Totals	913,168	39	227	81	31
Pima County					
TON (Schuk Toak District)	12,901	1	3	1	0
TON (San Xavier District)	10,463	0	3	1	0
County Totals	23,363	1	6	2	1
Gila County					
San Carlos Apache	0	0	0	0	0

Alternative 3a

Entity		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	48,577	2	12	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	63,377	3	16	6	2
Pinal County					
GRIC	557,080	24	139	49	19
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	213,512	9	53	19	7
New Magma IDD	63,403	3	16	6	2
County Totals	1,053,974	45	262	93	36
Pima County					
TON (Schuk Toak District)	12,901	1	3	1	0
TON (San Xavier District)	10,463	0	3	1	0
County Totals	23,363	1	6	2	1
Gila County					
San Carlos Apache	0	0	0	0	0

Alternative 3b

Entity		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	48,577	2	12	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	63,377	3	16	6	2
Pinal County					
GRIC	557,080	24	139	49	19
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	213,512	9	53	19	7
New Magma IDD	63,403	3	16	6	2
County Totals	1,053,974	45	262	93	36
Pima County					
TON (Schuk Toak District)	12,901	1	3	1	0
TON (San Xavier District)	10,463	0	3	1	0
County Totals	23,363	1	6	2	1
Gila County					
San Carlos Apache	0	0	0	0	0

**Table H-6. Air Quality Calculations (Continued)
Year 2030**

PM10 per acre - pass	Acre - passes				
	Cotton	Grains	Forage	Vegetables	Trees/Vines
No-Action Alternative 4.64	6.00	1.00	1.25	5.00	0.06

Site Preparation: Fugitive Dust

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	0	61,062	102	225,398	113
Tonopah ID	68,570	102	0	0	0	68,672	34
County Totals	214,953	17,952	0	61,062	102	294,070	147
Pinal County							
GRIC	1,344,421	107,871	54,532	105,096	0	1,611,920	806
TON Chuichu District	33,408	3,712	0	0	0	37,120	19
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	105,899	17,151	72,291	635	990,696	495
New Magma IDD	251,729	0	31,604	41,946	516	325,796	163
County Totals	3,199,957	301,716	153,810	291,392	2,233	3,949,109	1,975
Pima County							
TON (Schuk Toak District)	34,744	1,726	2,285	2,274	24	41,054	21
TON (San Xavier District)	0	11,637	15,660	4,454	0	31,752	16
County Totals	34,744	13,363	17,945	6,728	24	72,805	36

Settlement Alternative

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	0	61,062	102	225,398	113
Tonopah ID	68,570	102	0	0	0	68,672	34
County Totals	214,953	17,952	0	61,062	102	294,070	147
Pinal County							
GRIC	1,853,671	148,684	75,162	144,861	0	2,222,378	1,111
TON Chuichu District	33,408	3,712	0	0	0	37,120	19
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	105,899	17,151	72,291	635	990,696	495
New Magma IDD	251,729	0	0	41,946	516	294,191	147
County Totals	3,709,207	342,529	142,837	331,157	2,233	4,527,963	2,264
Pima County							
TON (Schuk Toak District)	50,780	2,524	4,257	2,274	24	59,860	30
TON (San Xavier District)	0	18,096	24,650	5,800	0	48,546	24
County Totals	50,780	20,620	28,907	8,074	24	108,406	54

Alternative 1

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	0	61,062	102	225,398	113
Tonopah ID	68,570	102	0	0	0	68,672	34
County Totals	214,953	17,952	0	61,062	102	294,070	147
Pinal County							
GRIC	1,477,636	116,617	59,931	115,513	0	1,769,697	885
TON Chuichu District	33,408	3,712	0	0	0	37,120	19
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	105,899	17,151	72,291	635	990,696	495
New Magma IDD	251,729	0	0	41,946	516	294,191	147
County Totals	3,333,172	310,462	127,606	301,809	2,233	4,075,282	2,038
Pima County							
TON (Schuk Toak District)	34,744	1,726	2,285	2,274	24	41,054	21
TON (San Xavier District)	0	11,637	15,660	4,454	0	31,752	16
County Totals	34,744	13,363	17,945	6,728	24	72,805	36

**Table H-6. Air Quality Calculations [Continued]
Year 2030**

PM10 per acre - pass 4.64	Acre - passes				
	Cotton	Grains	Forage	Vegetables	Trees/Vines
	6.00	1.00	1.25	5.00	0.06

Alternative 2

Site Preparation: Fugitive Dust

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	0	61,062	102	225,398	113
Tonopah ID	68,570	102	0	0	0	68,672	34
County Totals	214,953	17,952	0	61,062	102	294,070	147
Pinal County							
GRIC	1,610,878	129,252	65,453	125,930	0	1,931,513	966
TON Chuichu District	33,408	3,712	0	0	0	37,120	19
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	105,899	17,151	72,291	635	990,696	495
New Magma IDD	251,729	0	0	41,946	516	294,191	147
County Totals	3,466,414	323,097	133,127	312,226	2,233	4,237,098	2,119
Pima County							
TON (Schuk Toak District)	50,780	2,524	4,257	2,274	24	59,860	30
TON (San Xavier District)	0	18,096	24,650	5,800	0	48,546	24
County Totals	50,780	20,620	28,907	8,074	24	108,406	54
Gila County							
San Carlos Apache	0	0	0	0	0	0	0

Alternative 3a

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	0	61,062	102	225,398	113
Tonopah ID	68,570	102	0	0	0	68,672	34
County Totals	214,953	17,952	0	61,062	102	294,070	147
Pinal County							
GRIC	2,155,902	172,979	87,447	168,525	0	2,584,852	1,292
TON Chuichu District	33,408	3,712	0	0	0	37,120	19
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	105,899	17,151	72,291	635	990,696	495
New Magma IDD	251,729	0	0	41,946	516	294,191	147
County Totals	4,011,438	366,824	155,121	354,821	2,233	4,890,437	2,445
Pima County							
TON (Schuk Toak District)	50,780	2,524	4,257	2,274	24	59,860	30
TON (San Xavier District)	0	18,096	24,650	5,800	0	48,546	24
County Totals	50,780	20,620	28,907	8,074	24	108,406	54
Gila County							
San Carlos Apache	0	0	0	0	0	0	0

Alternative 3b

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	0	61,062	102	225,398	113
Tonopah ID	68,570	102	0	0	0	68,672	34
County Totals	214,953	17,952	0	61,062	102	294,070	147
Pinal County							
GRIC	2,155,902	172,979	87,447	168,525	0	2,584,852	1,292
TON Chuichu District	33,408	3,712	0	0	0	37,120	19
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	105,899	17,151	72,291	635	990,696	495
New Magma IDD	251,729	0	0	41,946	516	294,191	147
County Totals	4,011,438	366,824	155,121	354,821	2,233	4,890,437	2,445
Pima County							
TON (Schuk Toak District)	50,780	2,524	4,257	2,274	24	59,860	30
TON (San Xavier District)	0	18,096	24,650	5,800	0	48,546	24
County Totals	50,780	20,620	28,907	8,074	24	108,406	54
Gila County							
San Carlos Apache	0	0	0	0	0	0	0

**Table H-6. Air Quality Calculations (Continued)
Year 2030**

		Harvesting (pounds per acre)							
		Cotton	Grains	Forage	Vegetables	Trees/Vines			
No-Action Alternative		1.12	1.12	1.12	1.12	34.20	Total Emissions		
Harvest: Fugitive Dust									
Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	Harvest Tons/year	Site Prep+Harvest Tons/year	
Maricopa County									
Queen Creek ID	5,889	4,309	0	2,948	12,586	25,731	13	126	
Tonopah ID	2,759	25	0	0	0	2,783	1	36	
County Totals	8,648	4,333	0	2,948	12,586	28,514	14	161	
Pinal County									
GRIC	54,086	26,038	10,530	5,074	0	95,728	48	854	
TON Chuichu District	1,344	896	0	0	0	2,240	1	20	
Maricopa-Stanfield IDD	31,205	20,332	9,756	3,479	132,901	197,674	99	591	
Central Arizona IDD	31,972	25,562	3,312	3,490	78,010	142,345	71	567	
New Magma IDD	10,127	0	6,103	2,025	63,441	81,696	41	204	
County Totals	128,734	72,828	29,701	14,067	274,352	519,683	260	2,234	
Pima County									
TON (Schuk Toak District)	1,398	417	441	110	3,010	5,375	3	23	
TON (San Xavier District)	0	2,809	3,024	215	0	6,048	3	19	
County Totals	1,398	3,226	3,465	325	3,010	11,423	6	42	

Settlement Alternative

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	Tons/year	Tons/year
Maricopa County								
Queen Creek ID	5,889	4,309	0	2,948	12,586	25,731	13	126
Tonopah ID	2,759	25	0	0	0	2,783	1	36
County Totals	8,648	4,333	0	2,948	12,586	28,514	14	161
Pinal County								
GRIC	74,573	35,889	14,514	6,993	0	131,970	66	1,177
TON Chuichu District	1,344	896	0	0	0	2,240	1	20
Maricopa-Stanfield IDD	31,205	20,332	9,756	3,479	132,901	197,674	99	591
Central Arizona IDD	31,972	25,562	3,312	3,490	78,010	142,345	71	567
New Magma IDD	10,127	0	0	2,025	63,441	75,593	38	185
County Totals	149,221	82,680	27,582	15,987	274,352	549,822	275	2,539
Pima County								
TON (Schuk Toak District)	2,043	609	822	110	3,010	6,594	3	33
TON (San Xavier District)	0	4,368	4,760	280	0	9,408	5	29
County Totals	2,043	4,977	5,582	390	3,010	16,002	8	62

Alternative 1

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	Tons/year	Tons/year
Maricopa County								
Queen Creek ID	5,889	4,309	0	2,948	12,586	25,731	13	126
Tonopah ID	2,759	25	0	0	0	2,783	1	36
County Totals	8,648	4,333	0	2,948	12,586	28,514	14	161
Pinal County								
GRIC	59,445	28,149	11,573	5,576	0	104,744	52	937
TON Chuichu District	1,344	896	0	0	0	2,240	1	20
Maricopa-Stanfield IDD	31,205	20,332	9,756	3,479	132,901	197,674	99	591
Central Arizona IDD	31,972	25,562	3,312	3,490	78,010	142,345	71	567
New Magma IDD	10,127	0	0	2,025	63,441	75,593	38	185
County Totals	134,093	74,939	24,641	14,570	274,352	522,596	261	2,299
Pima County								
TON (Schuk Toak District)	1,398	417	441	110	3,010	5,375	3	23
TON (San Xavier District)	0	2,809	3,024	215	0	6,048	3	19
County Totals	1,398	3,226	3,465	325	3,010	11,423	6	42

**Table H-7. Air Quality Calculations
Year 2043**

No-Action Alternative

Entity	Crop Acreages					Total
	Acreage Cotton	Acreage Grains	Acreage Forage	Acreage Vegetables	Acreage Trees/Vines	
Maricopa County						
Queen Creek ID	5,258	3,847	0	2,632	368	12,105
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	3,869	0	2,632	368	14,590
Pinal County						
GRIC	48,291	23,248	9,402	4,530	0	85,471
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	0	2,957	3,116	2,281	36,900
New Magma IDD	9,042	0	0	1,808	1,855	12,705
County Totals	114,941	42,202	21,070	12,560	8,022	198,795
Pima County						
TON (Schuk Toak District)	1,248	372	394	98	88	2,200
TON (San Xavier District)	0	2,508	2,700	192	0	5,400
County Totals	1,248	2,880	3,094	290	88	7,600

Settlement Alternative

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total
Maricopa County						
Queen Creek ID	5,258	0	0	2,632	368	8,258
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	22	0	2,632	368	10,743
Pinal County						
GRIC	66,563	32,044	12,959	6,244	0	117,810
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	0	2,957	3,116	2,281	36,900
New Magma IDD	9,042	0	0	1,808	1,855	12,705
County Totals	133,213	50,998	24,627	14,274	8,022	231,134
Pima County						
TON (Schuk Toak District)	1,824	544	734	98	88	3,288
TON (San Xavier District)	0	3,900	4,250	250	0	8,400
County Totals	1,824	4,444	4,984	348	88	11,688

Alternative 1

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total
Maricopa County						
Queen Creek ID	5,258	3,847	0	2,632	368	12,105
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	3,869	0	2,632	368	14,590
Pinal County						
GRIC	53,076	25,133	10,333	4,979	0	93,521
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	0	2,957	3,116	2,281	36,900
New Magma IDD	9,042	0	0	1,808	1,855	12,705
County Totals	119,726	44,087	22,001	13,009	8,022	206,845
Pima County						
TON (Schuk Toak District)	1,248	372	394	88	88	2,190
TON (San Xavier District)	0	2,508	2,700	192	0	5,400
County Totals	1,248	2,880	3,094	280	88	7,590

**Table H-7. Air Quality Calculations [Continued]
Year 2043**

Alternative 2

Entity	Crop Acreages					Total
	Acreage Cotton	Acreage Grains	Acreage Forage	Acreage Vegetables	Acreage Trees/Vines	
Maricopa County						
Queen Creek ID	5,258	3,847	0	2,632	368	12,105
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	3,869	0	2,632	368	14,590
Pinal County						
GRIC	57,862	27,856	11,285	5,428	0	102,431
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	0	2,957	3,116	2,281	36,900
New Magma IDD	9,042	0	0	1,808	1,855	12,705
County Totals	124,512	46,810	22,953	13,458	8,022	215,755
Pima County						
TON (Schuk Toak District)	1,824	544	734	98	88	3,288
TON (San Xavier District)	0	3,900	4,250	250	0	8,400
County Totals	1,824	4,444	4,984	348	88	11,688
Gila County						
San Carlos Apache	0	0	0	0	0	0

Alternative 3a

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total
Maricopa County						
Queen Creek ID	5,258	0	0	2,632	368	8,258
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	22	0	2,632	368	10,743
Pinal County						
GRIC	77,439	37,280	15,077	7,264	0	137,060
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	0	2,957	3,116	2,281	36,900
New Magma IDD	9,042	0	0	1,808	1,855	12,705
County Totals	144,089	56,234	26,745	15,294	8,022	250,384
Pima County						
TON (Schuk Toak District)	1,824	544	734	98	88	3,288
TON (San Xavier District)	0	3,900	4,250	250	0	8,400
County Totals	1,824	4,444	4,984	348	88	11,688
Gila County						
San Carlos Apache	0	0	0	0	0	0

Alternative 3b

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total
Maricopa County						
Queen Creek ID	5,258	0	0	2,632	368	8,258
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	22	0	2,632	368	10,743
Pinal County						
GRIC	77,439	37,280	15,077	7,264	0	137,060
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stanfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	0	2,957	3,116	2,281	36,900
New Magma IDD	9,042	0	0	1,808	1,855	12,705
County Totals	144,089	56,234	26,745	15,294	8,022	250,384
Pima County						
TON (Schuk Toak District)	1,824	544	734	98	88	3,288
TON (San Xavier District)	0	3,900	4,250	250	0	8,400
County Totals	1,824	4,444	4,984	348	88	11,688
Gila County						
San Carlos Apache	0	0	0	0	0	0

**Table H-7. Air Quality Calculations (Continued)
Year 2043**

**Emission Factors
(grams/acre-hour)**

ROG	NOx	CO	PM10-exhaust
38.90	226.00	80.50	30.90

No-Action Alternative

Site Preparation/Harvest Exhaust Emissions

Entity	Acre-Passes	grams/acre-hr			
		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	48,577	2	12	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	63,377	3	16	6	2
Pinal County					
GRIC	347,397	15	86	31	12
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	190,689	8	47	17	6
New Magma IDD	63,403	3	16	6	2
County Totals	821,467	35	204	73	28
Pima County					
TON (Schuk Toak District)	8,848	0	2	1	0
TON (San Xavier District)	6,843	0	2	1	0
County Totals	15,691	1	4	1	1

Settlement Alternative

Entity		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	44,730	2	11	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	59,530	3	15	5	2
Pinal County					
GRIC	478,841	21	119	42	16
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	190,689	8	47	17	6
New Magma IDD	63,403	3	16	6	2
County Totals	952,911	41	237	84	32
Pima County					
TON (Schuk Toak District)	12,901	1	3	1	0
TON (San Xavier District)	10,463	0	3	1	0
County Totals	23,363	1	6	2	1

Alternative 1

Entity		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	48,577	2	12	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	63,377	3	16	6	2
Pinal County					
GRIC	381,400	16	95	34	13
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	190,689	8	47	17	6
New Magma IDD	63,403	3	16	6	2
County Totals	855,471	37	213	76	29
Pima County					
TON (Schuk Toak District)	8,798	0	2	1	0
TON (San Xavier District)	6,843	0	2	1	0
County Totals	15,641	1	4	1	1

**Table H-7. Air Quality Calculations [Continued]
Year 2043**

Alternative 2	Emission Factors (grams/acre-hour)			
	ROG	NOx	CO	PM10-exhaust
	38.90	226.00	80.50	30.90

Entity	Site Preparation/Harvest Exhaust Emissions				
	Acre-Passes	grams/acre-hr	grams/acre-hr	grams/acre-hr	grams/acre-hr
Maricopa County					
Queen Creek ID	48,577	2	12	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	63,377	3	16	6	2
Pinal County					
GRIC	416,274	18	104	37	14
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	190,689	8	47	17	6
New Magma IDD	63,403	3	16	6	2
County Totals	890,345	38	222	79	30
Pima County					
TON (Schuk Toak District)	12,901	1	3	1	0
TON (San Xavier District)	10,463	0	3	1	0
County Totals	23,363	1	6	2	1
Gila County					
San Carlos Apache	0	0	0	0	0

Alternative 3a

Maricopa County					
Queen Creek ID	44,730	2	11	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	59,530	3	15	5	2
Pinal County					
GRIC	557,080	24	139	49	19
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	190,689	8	47	17	6
New Magma IDD	63,403	3	16	6	2
County Totals	1,031,151	44	257	91	35
Pima County					
TON (Schuk Toak District)	12,901	1	3	1	0
TON (San Xavier District)	10,463	0	3	1	0
County Totals	23,363	1	6	2	1
Gila County					
San Carlos Apache	0	0	0	0	0

Maricopa County					
Queen Creek ID	44,730	2	11	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	59,530	3	15	5	2
Pinal County					
GRIC	557,080	24	139	49	19
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stanfield IDD	211,978	9	53	19	7
Central Arizona IDD	190,689	8	47	17	6
New Magma IDD	63,403	3	16	6	2
County Totals	1,031,151	44	257	91	35
Pima County					
TON (Schuk Toak District)	12,901	1	3	1	0
TON (San Xavier District)	10,463	0	3	1	0
County Totals	23,363	1	6	2	1
Gila County					
San Carlos Apache	0	0	0	0	0

**Table H-7. Air Quality Calculations (Continued)
Year 2043**

No-Action Alternative	PM10 per acre - pass	Acre - passes				
	4.64	Cotton	Grains	Forage	Vegetables	Trees/Vines
		6.00	1.00	1.25	5.00	0.06

Site Preparation: Fugitive Dust

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	0	61,062	102	225,398	113
Tonopah ID	68,570	102	0	0	0	68,672	34
County Totals	214,953	17,952	0	61,062	102	294,070	147
Pinal County							
GRIC	1,344,421	107,871	54,532	105,096	0	1,611,920	806
TON Chuichu District	33,408	3,712	0	0	0	37,120	19
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	0	17,151	72,291	635	884,797	442
New Magma IDD	251,729	0	0	41,946	516	294,191	147
County Totals	3,199,957	195,817	122,206	291,392	2,233	3,811,606	1,906
Pima County							
TON (Schuk Toak District)	34,744	1,726	2,285	2,274	24	41,054	21
TON (San Xavier District)	0	11,637	15,660	4,454	0	31,752	16
County Totals	34,744	13,363	17,945	6,728	24	72,805	36

Settlement Alternative

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	0	0	61,062	102	207,548	104
Tonopah ID	68,570	102	0	0	0	68,672	34
County Totals	214,953	102	0	61,062	102	276,220	138
Pinal County							
GRIC	1,853,114	148,684	75,162	144,861	0	2,221,821	1,111
TON Chuichu District	33,408	3,712	0	0	0	37,120	19
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	0	17,151	72,291	635	884,797	442
New Magma IDD	251,729	0	0	41,946	516	294,191	147
County Totals	3,708,650	236,631	142,837	331,157	2,233	4,421,507	2,211
Pima County							
TON (Schuk Toak District)	50,780	2,524	4,257	2,274	24	59,860	30
TON (San Xavier District)	0	18,096	24,650	5,800	0	48,546	24
County Totals	50,780	20,620	28,907	8,074	24	108,406	54

Alternative 1

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	0	61,062	102	225,398	113
Tonopah ID	68,570	102	0	0	0	68,672	34
County Totals	214,953	17,952	0	61,062	102	294,070	147
Pinal County							
GRIC	1,477,636	116,617	59,931	115,513	0	1,769,697	885
TON Chuichu District	33,408	3,712	0	0	0	37,120	19
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	0	17,151	72,291	635	884,797	442
New Magma IDD	251,729	0	0	41,946	516	294,191	147
County Totals	3,333,172	204,564	127,606	301,809	2,233	3,969,383	1,985
Pima County							
TON (Schuk Toak District)	34,744	1,726	2,285	2,042	24	40,822	20
TON (San Xavier District)	0	11,637	15,660	4,454	0	31,752	16
County Totals	34,744	13,363	17,945	6,496	24	72,573	36

**Table H-7. Air Quality Calculations [Continued]
Year 2043**

Alternative 2	PM10 per acre - pass	Acre - passes					Total	tons/year
		Cotton	Grains	Forage	Vegetables	Trees/Vines		
		4.64	6.00	1.00	1.25	5.00		

Site Preparation: Fugitive Dust							
Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	0	61,062	102	225,398	113
Tonopah ID	68,570	102	0	0	0	68,672	34
County Totals	214,953	17,952	0	61,062	102	294,070	147
Pinal County							
GRIC	1,610,878	129,252	65,453	125,930	0	1,931,513	966
TON Chuichu District	33,408	3,712	0	0	0	37,120	19
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	0	17,151	72,291	635	884,797	442
New Magma IDD	251,729	0	0	41,946	516	294,191	147
County Totals	3,466,414	217,198	133,127	312,226	2,233	4,131,199	2,066
Pima County							
TON (Schuk Toak District)	50,780	2,524	4,257	2,274	24	59,860	30
TON (San Xavier District)	0	18,096	24,650	5,800	0	48,546	24
County Totals	50,780	20,620	28,907	8,074	24	108,406	54
Gila County							
San Carlos Apache	0	0	0	0	0	0	0

Alternative 3a

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	0	0	61,062	102	207,548	104
Tonopah ID	68,570	102	0	0	0	68,672	34
County Totals	214,953	102	0	61,062	102	276,220	138
Pinal County							
GRIC	2,155,902	172,979	87,447	168,525	0	2,584,852	1,292
TON Chuichu District	33,408	3,712	0	0	0	37,120	19
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	0	17,151	72,291	635	884,797	442
New Magma IDD	251,729	0	0	41,946	516	294,191	147
County Totals	4,011,438	260,926	155,121	354,821	2,233	4,784,539	2,392
Pima County							
TON (Schuk Toak District)	50,780	2,524	4,257	2,274	24	59,860	30
TON (San Xavier District)	0	18,096	24,650	5,800	0	48,546	24
County Totals	50,780	20,620	28,907	8,074	24	108,406	54
Gila County							
San Carlos Apache	0	0	0	0	0	0	0

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	0	0	61,062	102	207,548	104
Tonopah ID	68,570	102	0	0	0	68,672	34
County Totals	214,953	102	0	61,062	102	276,220	138
Pinal County							
GRIC	2,155,902	172,979	87,447	168,525	0	2,584,852	1,292
TON Chuichu District	33,408	3,712	0	0	0	37,120	19
Maricopa-Stanfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	0	17,151	72,291	635	884,797	442
New Magma IDD	251,729	0	0	41,946	516	294,191	147
County Totals	4,011,438	260,926	155,121	354,821	2,233	4,784,539	2,392
Pima County							
TON (Schuk Toak District)	50,780	2,524	4,257	2,274	24	59,860	30
TON (San Xavier District)	0	18,096	24,650	5,800	0	48,546	24
County Totals	50,780	20,620	28,907	8,074	24	108,406	54
Gila County							
San Carlos Apache	0	0	0	0	0	0	0

**Table H-7. Air Quality Calculations (Continued)
Year 2043**

	Harvesting (pounds per acre)					Total Emissions		
	Cotton	Grains	Forage	Vegetables	Trees/Vines			
	1.12	1.12	1.12	1.12	34.20			
No-Action Alternative								
	Harvest: Fugitive Dust					Harvest	Site Prep+Harvest	
Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	Tons/year	Tons/year
Maricopa County								
Queen Creek ID	5,889	4,309	0	2,948	12,586	25,731	13	126
Tonopah ID	2,759	25	0	0	0	2,783	1	36
County Totals	8,648	4,333	0	2,948	12,586	28,514	14	161
Pinal County								
GRIC	54,086	26,038	10,530	5,074	0	95,728	48	854
TON Chuichu District	1,344	896	0	0	0	2,240	1	20
Maricopa-Stanfield IDD	31,205	20,332	9,756	3,479	132,901	197,674	99	591
Central Arizona IDD	31,972	0	3,312	3,490	78,010	116,783	58	501
New Magma IDD	10,127	0	0	2,025	63,441	75,593	38	185
County Totals	128,734	47,266	23,598	14,067	274,352	488,018	244	2,150
Pima County								
TON (Schuk Toak District)	1,398	417	441	110	3,010	5,375	3	23
TON (San Xavier District)	0	2,809	3,024	215	0	6,048	3	19
County Totals	1,398	3,226	3,465	325	3,010	11,423	6	42

Settlement Alternative

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	Tons/year	Tons/year
Maricopa County								
Queen Creek ID	5,889	0	0	2,948	12,586	21,422	11	114
Tonopah ID	2,759	25	0	0	0	2,783	1	36
County Totals	8,648	25	0	2,948	12,586	24,206	12	150
Pinal County								
GRIC	74,551	35,889	14,514	6,993	0	131,947	66	1,177
TON Chuichu District	1,344	896	0	0	0	2,240	1	20
Maricopa-Stanfield IDD	31,205	20,332	9,756	3,479	132,901	197,674	99	591
Central Arizona IDD	31,972	0	3,312	3,490	78,010	116,783	58	501
New Magma IDD	10,127	0	0	2,025	63,441	75,593	38	185
County Totals	149,199	57,118	27,582	15,987	274,352	524,238	262	2,473
Pima County								
TON (Schuk Toak District)	2,043	609	822	110	3,010	6,594	3	33
TON (San Xavier District)	0	4,368	4,760	280	0	9,408	5	29
County Totals	2,043	4,977	5,582	390	3,010	16,002	8	62

Alternative 1

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	Tons/year	Tons/year
Maricopa County								
Queen Creek ID	5,889	4,309	0	2,948	12,586	25,731	13	126
Tonopah ID	2,759	25	0	0	0	2,783	1	36
County Totals	8,648	4,333	0	2,948	12,586	28,514	14	161
Pinal County								
GRIC	59,445	28,149	11,573	5,576	0	104,744	52	937
TON Chuichu District	1,344	896	0	0	0	2,240	1	20
Maricopa-Stanfield IDD	31,205	20,332	9,756	3,479	132,901	197,674	99	591
Central Arizona IDD	31,972	0	3,312	3,490	78,010	116,783	58	501
New Magma IDD	10,127	0	0	2,025	63,441	75,593	38	185
County Totals	134,093	49,377	24,641	14,570	274,352	497,034	249	2,233
Pima County								
TON (Schuk Toak District)	1,398	417	441	99	3,010	5,364	3	23
TON (San Xavier District)	0	2,809	3,024	215	0	6,048	3	19
County Totals	1,398	3,226	3,465	314	3,010	11,412	6	42

**Table H-8. Air Quality Calculations
Year 2050**

No-Action Alternative

Entity	Crop Acreages					Total
	Cotton	Grains	Forage	Vegetables	Trees/Vines	
Maricopa County						
Queen Creek ID	5,258	3,847	3,154	2,632	368	15,259
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	3,869	3,154	2,632	368	17,744
Pinal County						
GRIC	48,291	23,248	9,402	4,530	0	85,471
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stansfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	0	2,957	3,116	2,281	36,900
New Magma IDD	9,042	0	0	1,808	1,855	12,705
County Totals	114,941	42,202	21,070	12,560	8,022	198,795
Pima County						
TON (Schuk Toak District)	1,248	372	394	98	88	2,200
TON (San Xavier District)	0	2,508	2,700	192	0	5,400
County Totals	1,248	2,880	3,094	290	88	7,600

Settlement Alternative

Entity	Acreage					Total
	Cotton	Grains	Forage	Vegetables	Trees/Vines	
Maricopa County						
Queen Creek ID	5,258	0	0	2,632	368	8,258
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	22	0	2,632	368	10,743
Pinal County						
GRIC	66,563	32,044	12,959	6,244	0	117,810
TON Chuichu District	1,824	544	734	98	0	3,200
Maricopa-Stansfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	0	2,957	3,116	2,281	36,900
New Magma IDD	9,042	0	0	1,808	1,855	12,705
County Totals	133,837	50,742	25,361	14,372	8,022	232,334
Pima County						
TON (Schuk Toak District)	1,824	544	734	98	88	3,288
TON (San Xavier District)	0	3,900	4,250	250	0	8,400
County Totals	1,824	4,444	4,984	348	88	11,688

Alternative 1

Entity	Acreage					Total
	Cotton	Grains	Forage	Vegetables	Trees/Vines	
Maricopa County						
Queen Creek ID	5,258	0	0	2,632	368	8,258
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	22	0	2,632	368	10,743
Pinal County						
GRIC	53,076	25,133	10,333	4,979	0	93,521
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stansfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	0	2,957	3,116	2,281	36,900
New Magma IDD	9,042	0	0	1,808	1,855	12,705
County Totals	119,726	44,087	22,001	13,009	8,022	206,845
Pima County						
TON (Schuk Toak District)	1,248	372	394	98	88	2,200
TON (San Xavier District)	0	2,508	2,700	192	0	5,400
County Totals	1,248	2,880	3,094	290	88	7,600

**Table H-8. Air Quality Calculations [Continued]
Year 2050**

Alternative 2

Entity	Crop Acreages					Total
	Acreage	Acreage	Acreage	Acreage	Acreage	
	Cotton	Grains	Forage	Vegetables	Trees/Vines	
Maricopa County						
Queen Creek ID	5,258	0	0	2,632	368	8,258
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	22	0	2,632	368	10,743
Pinal County						
GRIC	57,862	27,856	11,285	5,428	0	102,431
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stansfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	0	2,957	3,116	2,281	36,900
New Magma IDD	9,042	0	0	1,808	1,855	12,705
County Totals	124,512	46,810	22,953	13,458	8,022	215,755
Pima County						
TON (Schuk Toak District)	1,824	544	734	98	88	3,288
TON (San Xavier District)	0	3,900	4,250	250	0	8,400
County Totals	1,824	4,444	4,984	348	88	11,688
Gila County						
San Carlos Apache	0	0	0	0	0	0

Alternative 3a

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total
Maricopa County						
Queen Creek ID	5,258	0	0	2,632	368	8,258
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	22	0	2,632	368	10,743
Pinal County						
GRIC	77,439	37,280	15,077	7,264	0	137,060
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stansfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	0	2,957	3,116	2,281	36,900
New Magma IDD	9,042	0	0	1,808	1,855	12,705
County Totals	144,089	56,234	26,745	15,294	8,022	250,384
Pima County						
TON (Schuk Toak District)	1,824	544	734	98	88	3,288
TON (San Xavier District)	0	3,900	4,250	250	0	8,400
County Totals	1,824	4,444	4,984	348	88	11,688
Gila County						
San Carlos Apache	0	0	0	0	0	0

Alternative 3b

Entity	Acreage					Total
	Cotton	Grains	Forage	Vegetables	Trees/Vines	
Maricopa County						
Queen Creek ID	5,258	0	0	2,632	368	8,258
Tonopah ID	2,463	22	0	0	0	2,485
County Totals	7,721	22	0	2,632	368	10,743
Pinal County						
GRIC	77,439	37,280	15,077	7,264	0	137,060
TON Chuichu District	1,200	800	0	0	0	2,000
Maricopa-Stansfield IDD	27,862	18,154	8,711	3,106	3,886	61,719
Central Arizona IDD	28,546	0	2,957	3,116	2,281	36,900
New Magma IDD	9,042	0	0	1,808	1,855	12,705
County Totals	144,089	56,234	26,745	15,294	8,022	250,384
Pima County						
TON (Schuk Toak District)	1,824	544	734	88	88	3,278
TON (San Xavier District)	0	3,900	4,250	250	0	8,400
County Totals	1,824	4,444	4,984	338	88	11,678
Gila County						
San Carlos Apache	0	0	0	0	0	0

**Table H-8. Air Quality Calculations
Year 2050**

Emission Factors (grams/acre-hour)			
ROG	NOx	CO	PM10-exhaust
38.90	226.00	80.50	30.90

No-Action Alternative

Entity	Acre-Passes	Site Preparation/Harvest Plant Emissions			
		grams/acre-hr	grams/acre-hr	grams/acre-hr	grams/acre-hr
		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	52,520	2	13	5	2
Tonopah ID	14,800	1	4	1	1
County Totals	67,320	3	17	6	2
Pinal County					
GRIC	347,397	15	86	31	12
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stansfield IDD	211,978	9	53	19	7
Central Arizona IDD	190,689	8	47	17	6
New Magma IDD	63,403	3	16	6	2
County Totals	821,467	35	204	73	28
Pima County					
TON (Schuk Toak District)	8,848	0	2	1	0
TON (San Xavier District)	6,843	0	2	1	0
County Totals	15,691	1	4	1	1

Settlement Alternative

Entity		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	44,730	2	11	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	59,530	3	15	5	2
Pinal County					
GRIC	478,841	21	119	42	16
TON Chuichu District	12,896	1	3	1	0
Maricopa-Stansfield IDD	211,978	9	53	19	7
Central Arizona IDD	190,689	8	47	17	6
New Magma IDD	63,403	3	16	6	2
County Totals	957,807	41	238	85	33
Pima County					
TON (Schuk Toak District)	12,901	1	3	1	0
TON (San Xavier District)	10,463	0	3	1	0
County Totals	23,363	1	6	2	1

Alternative 1

Entity		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	44,730	2	11	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	59,530	3	15	5	2
Pinal County					
GRIC	381,400	16	95	34	13
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stansfield IDD	211,978	9	53	19	7
Central Arizona IDD	190,689	8	47	17	6
New Magma IDD	63,403	3	16	6	2
County Totals	855,471	37	213	76	29
Pima County					
TON (Schuk Toak District)	8,848	0	2	1	0
TON (San Xavier District)	6,843	0	2	1	0
County Totals	15,691	1	4	1	1

**Table H-8. Air Quality Calculations [Continued]
Year 2050**

Emission Factors (grams/acre-hour)			
ROG	NOx	CO	PM10-exhaust
38.90	226.00	80.50	30.90

Alternative 2

Entity	Acre-Passes	Site Preparation/Harvest Plant Emissions			
		grams/acre-hr	grams/acre-hr	grams/acre-hr	grams/acre-hr
		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	44,730	2	11	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	59,530	3	15	5	2
Pinal County					
GRIC	416,274	18	104	37	14
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stansfield IDD	211,978	9	53	19	7
Central Arizona IDD	190,689	8	47	17	6
New Magma IDD	63,403	3	16	6	2
County Totals	890,345	38	222	79	30
Pima County					
TON (Schuk Toak District)	12,901	1	3	1	0
TON (San Xavier District)	10,463	0	3	1	0
County Totals	23,363	1	6	2	1
Gila County					
San Carlos Apache	0	0	0	0	0

Alternative 3a

Entity		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	44,730	2	11	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	59,530	3	15	5	2
Pinal County					
GRIC	557,080	24	139	49	19
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stansfield IDD	211,978	9	53	19	7
Central Arizona IDD	190,689	8	47	17	6
New Magma IDD	63,403	3	16	6	2
County Totals	1,031,151	44	257	91	35
Pima County					
TON (Schuk Toak District)	12,901	1	3	1	0
TON (San Xavier District)	10,463	0	3	1	0
County Totals	23,363	1	6	2	1
Gila County					
San Carlos Apache	0	0	0	0	0

Alternative 3b

Entity		tons/yr	tons/yr	tons/yr	tons/yr
Maricopa County					
Queen Creek ID	44,730	2	11	4	2
Tonopah ID	14,800	1	4	1	1
County Totals	59,530	3	15	5	2
Pinal County					
GRIC	557,080	24	139	49	19
TON Chuichu District	8,000	0	2	1	0
Maricopa-Stansfield IDD	211,978	9	53	19	7
Central Arizona IDD	190,689	8	47	17	6
New Magma IDD	63,403	3	16	6	2
County Totals	1,031,151	44	257	91	35
Pima County					
TON (Schuk Toak District)	12,851	1	3	1	0
TON (San Xavier District)	10,463	0	3	1	0
County Totals	23,313	1	6	2	1
Gila County					
San Carlos Apache	0	0	0	0	0

**Table H-8. Air Quality Calculations
Year 2050**

PM10 per acre - pass 4.64	Acre - passes				
	Cotton	Grains	Forage	Vegetables	Trees/Vines
	6.00	1.00	1.25	5.00	0.06

No-Action Alternative

Site Preparation: Fugitive Dust

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	17,850	18,293	61,062	102	243,691	122
Tonopah ID	68,570	102	0	0	0	68,672	34
County Totals	214,953	17,952	18,293	61,062	102	312,363	156
Pinal County							
GRIC	1,344,421	107,871	54,532	105,096	0	1,611,920	806
TON Chuichu District	33,408	3,712	0	0	0	37,120	19
Maricopa-Stansfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	0	17,151	72,291	635	884,797	442
New Magma IDD	251,729	0	0	41,946	516	294,191	147
County Totals	3,199,957	195,817	122,206	291,392	2,233	3,811,606	1,906
Pima County							
TON (Schuk Toak District)	34,744	1,726	2,285	2,274	24	41,054	21
TON (San Xavier District)	0	11,637	15,660	4,454	0	31,752	16
County Totals	34,744	13,363	17,945	6,728	24	72,805	36

Settlement Alternative

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	0	0	61,062	102	207,548	104
Tonopah ID	68,570	102	0	0	0	68,672	34
County Totals	214,953	102	0	61,062	102	276,220	138
Pinal County							
GRIC	1,853,114	148,684	75,162	144,861	0	2,221,821	1,111
TON Chuichu District	50,780	2,524	4,257	2,274	0	59,835	30
Maricopa-Stansfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	0	17,151	72,291	635	884,797	442
New Magma IDD	251,729	0	0	41,946	516	294,191	147
County Totals	3,726,022	235,443	147,094	333,430	2,233	4,444,222	2,222
Pima County							
TON (Schuk Toak District)	50,780	2,524	4,257	2,274	24	59,860	30
TON (San Xavier District)	0	18,096	24,650	5,800	0	48,546	24
County Totals	50,780	20,620	28,907	8,074	24	108,406	54

Alternative 1

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	tons/year
Maricopa County							
Queen Creek ID	146,383	0	0	61,062	102	207,548	104
Tonopah ID	68,570	102	0	0	0	68,672	34
County Totals	214,953	102	0	61,062	102	276,220	138
Pinal County							
GRIC	1,477,636	116,617	59,931	115,513	0	1,769,697	885
TON Chuichu District	33,408	3,712	0	0	0	37,120	19
Maricopa-Stansfield IDD	775,678	84,235	50,524	72,059	1,082	983,578	492
Central Arizona IDD	794,721	0	17,151	72,291	635	884,797	442
New Magma IDD	251,729	0	0	41,946	516	294,191	147
County Totals	3,333,172	204,564	127,606	301,809	2,233	3,969,383	1,985
Pima County							
TON (Schuk Toak District)	34,744	1,726	2,285	2,274	24	41,054	21
TON (San Xavier District)	0	11,637	15,660	4,454	0	31,752	16
County Totals	34,744	13,363	17,945	6,728	24	72,805	36

**Table H-8. Air Quality Calculations
Year 2050**

Harvesting (pounds per acre)				
Cotton	Grains	Forage	Vegetables	Trees/Vines
1.12	1.12	1.12	1.12	34.20

Total Emissions

No-Action Alternative

Harvest: Fugitive Dust

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	Harvest	Site Prep+Harvest
							Tons/year	Tons/year
Maricopa County								
Queen Creek ID	5,889	4,309	3,532	2,948	12,586	29,264	15	136
Tonopah ID	2,759	25	0	0	0	2,783	1	36
County Totals	8,648	4,333	3,532	2,948	12,586	32,047	16	172
Pinal County								
GRIC	54,086	26,038	10,530	5,074	0	95,728	48	854
TON Chuichu District	1,344	896	0	0	0	2,240	1	20
Maricopa-Stansfield IDD	31,205	20,332	9,756	3,479	132,901	197,674	99	591
Central Arizona IDD	31,972	0	3,312	3,490	78,010	116,783	58	501
New Magma IDD	10,127	0	0	2,025	63,441	75,593	38	185
County Totals	128,734	47,266	23,598	14,067	274,352	488,018	244	2,150
Pima County								
TON (Schuk Toak District)	1,398	417	441	110	3,010	5,375	3	23
TON (San Xavier District)	0	2,809	3,024	215	0	6,048	3	19
County Totals	1,398	3,226	3,465	325	3,010	11,423	6	42

Settlement Alternative

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	Tons/year	Tons/year
Maricopa County								
Queen Creek ID	5,889	0	0	2,948	12,586	21,422	11	114
Tonopah ID	2,759	25	0	0	0	2,783	1	36
County Totals	8,648	25	0	2,948	12,586	24,206	12	150
Pinal County								
GRIC	74,551	35,889	14,514	6,993	0	131,947	66	1,177
TON Chuichu District	2,043	609	822	110	0	3,584	2	32
Maricopa-Stansfield IDD	31,205	20,332	9,756	3,479	132,901	197,674	99	591
Central Arizona IDD	31,972	0	3,312	3,490	78,010	116,783	58	501
New Magma IDD	10,127	0	0	2,025	63,441	75,593	38	185
County Totals	149,897	56,831	28,404	16,097	274,352	525,582	263	2,485
Pima County								
TON (Schuk Toak District)	2,043	609	822	110	3,010	6,594	3	33
TON (San Xavier District)	0	4,368	4,760	280	0	9,408	5	29
County Totals	2,043	4,977	5,582	390	3,010	16,002	8	62

Alternative 1

Entity	Cotton	Grains	Forage	Vegetables	Trees/Vines	Total	Tons/year	Tons/year
Maricopa County								
Queen Creek ID	5,889	0	0	2,948	12,586	21,422	11	114
Tonopah ID	2,759	25	0	0	0	2,783	1	36
County Totals	8,648	25	0	2,948	12,586	24,206	12	150
Pinal County								
GRIC	59,445	28,149	11,573	5,576	0	104,744	52	937
TON Chuichu District	1,344	896	0	0	0	2,240	1	20
Maricopa-Stansfield IDD	31,205	20,332	9,756	3,479	132,901	197,674	99	591
Central Arizona IDD	31,972	0	3,312	3,490	78,010	116,783	58	501
New Magma IDD	10,127	0	0	2,025	63,441	75,593	38	185
County Totals	134,093	49,377	24,641	14,570	274,352	497,034	249	2,233
Pima County								
TON (Schuk Toak District)	1,398	417	441	110	3,010	5,375	3	23
TON (San Xavier District)	0	2,809	3,024	215	0	6,048	3	19
County Totals	1,398	3,226	3,465	325	3,010	11,423	6	42

